

GENERAL NOTES

Fresh-water mollusks fed to young Tree Swallows.—While studying nesting Tree Swallows (*Iridoprocne bicolor*) at the University of Michigan Biological Station in the summer of 1952, I found evidence that the adult birds were feeding their young on fresh-water snails and clams.

A number of snail shells and one clam shell were found among the fecal sacs which accumulated in the nests during the last few days before the young left the nest. Each snail shell showed signs of chemical action on the surface and was filled almost to the tip of the spire with fecal matter.

To test the assumption that snail shells would be recovered in this form after passing through the digestive tract of a swallow, a young Purple Martin (*Progne subis*)—the only species then available—was fed eight snail shells of the size of those found in the Tree Swallow nests. Within 16 hours four of these snails had passed through the digestive tract of the Purple Martin to be deposited separately from the fecal sacs. They were nearly identical in appearance to the shells found in the Tree Swallow nests.

Seven of the 26 Tree Swallow nests studied at the Station contained these shell remains. The shells were identified by Dr. Frank E. Eggleton, of the University of Michigan, as *Physa sayi*, *P. gyrina*, *Helisoma antrosa percarinatum*, and *Sphaerium* sp. These species were all abundant within a half mile of the nesting boxes, inhabiting shallow water areas and occasionally emerging on the vegetation or wet sandy beaches. The swallows may have picked up the mollusks from the beach, from vegetation, or from the surface of quiet water.

Dr. A. L. Nelson, Director of the Patuxent Research Refuge at Laurel, Maryland, has kindly notified me that there are a few unpublished records of unidentified mollusks eaten by several species of swallows.—MARY-ELIZABETH WHELAN, *University of Michigan Biological Station and Muskegon (Michigan) Public Schools, September 30, 1952.*

Identification of songbird nests by reclaimed eggshell fragments.—During the course of a study started in October, 1952, aimed at an evaluation of use of habitat improvement plantings by wildlife, songbird nests were collected and brought into the laboratory for identification. Here they were keyed with the aid of Richard Headstrom's recent guide (1949. "Birds' Nests. A Field Guide." Ives Washburn, Inc., New York). Many of the nests were from previous season's nesting attempts. Measurements and positive identification were hampered by damage in collecting and from the middens of white-footed mice (*Peromyscus leucopus*). It was, therefore, necessary to find bits of eggshells, either to confirm identification made from the key or, in some instances, to determine which of two or three species with similar nests had built the one in question.

The bottom parts or often the entire nest were put into a 6 inch diameter battery jar (2 gallon capacity) half full of water. The water and nest material were thoroughly mixed for approximately 30 seconds with a small electric mixer. As soon as the contents settled, the floating debris was skimmed off and the muddy water carefully poured away. Repeated washing and decanting floated away all objects of lesser density than the eggshells which were then easily reclaimed from the bottom of the jar. Almost all pieces of shell found were large enough to show any speckled pattern present and shell colors were easily distinguished without magnification.—JOSEPH C. RIEFFENBERGER, *Forestry Section, Illinois Natural History Survey, February 5, 1953.*